

OBITUARY.

The Council regret that they have to record the loss by death of the following Fellows during the past year :—

Fellows :—Francis Barrow.
 W. H. Bartlett.
 Sir C. T. Bright.
 J. Rand Capron.
 William Cotterell.
 Rev. P. A. Fothergill.
 Commander J. Ll. Heane.
 Rev. R. F. Heath.
 Col. A. S. H. Lowe.
 Ole Möller.
 J. D. Perrins
 R. A. Proctor.
 J. O. N. Rutter.
 James Wigglesworth.

FRANCIS BARROW was born in 1821. He was the only son of the Rev. Francis Barrow, vicar of Cranbrook in Kent. He graduated at Oxford, where he took his B.A. degree in 1841, and his M.A. in 1844. He was called to the Bar at Lincoln's Inn in 1844, and commenced to practise as a special pleader. He went the Home Circuit and was frequently at Cranbrook, where he made the acquaintance of Mr. Dawes, who came to reside there in 1844. This friendship greatly developed his taste for astronomy, and he subsequently erected an observatory of his own at the rear of his house in Phillimore Gardens, Kensington. In 1850 he married Catherine Clara, a daughter of the late Admiral Thomas Dick. He was a Justice of the Peace for the county of Kent, and was appointed Recorder of Rochester in 1867, and in 1876 he was appointed a County Court Judge. He died on September 13, 1888, at his house in Phillimore Gardens.

Mr. Barrow was elected a Fellow of the Society 1870, Nov. 11, and held the office of treasurer from Feb. 1878 to Feb. 1884.

CHARLES TILSTON BRIGHT was born at Wanstead in 1832, and was the youngest son of Mr. Brailsford Bright, of Wanstead.

He was educated at Merchant Taylors' School, and showed special scientific aptitudes very early in life, his attention being particularly directed to chemistry and electricity.

In 1847, at the age of fifteen, he became acquainted with the late Sir William Fothergill Cooke, and was introduced into the service of the Electric Telegraph Company, at that time established to work the patents of Cooke and Wheatstone. From 1847 to 1850 he was connected with the Electric Company, the British Company, and finally with the Amalgamated British and Irish Magnetic Telegraph Company, of which his brother, Edward Bright, had been appointed manager. In 1852 he was appointed engineer to the Company, and at this time he was occupied in carrying out a most extensive scheme of underground wires between London, Manchester, Liverpool, and other places.

Perhaps the first work which brought Charles Bright into public notice was, at the age of nineteen, laying underground the Manchester telegraph lines under the streets of that vast city in one single night without disturbing the traffic.

Charles Bright's connection with the Magnetic Company continued as engineer, and then as consulting engineer, up to the year 1870, when the telegraphs were acquired by the State.

It was during this period that he undertook the great work with which his name is inseparably connected. To mention the Atlantic cable is at once to bring the name of Charles Tilston Bright before us. During the time that the underground system of wires was growing under his hands he was carrying out numerous experiments as to the effects of the transmission of signals through long distances. In his inaugural address in January 1887 to the Society of Telegraph Engineers he says: "Having a great length of underground gutta-percha-covered wire under my control as engineer of the Magnetic Company, I carried out a long series of experiments by having the wires connected up backwards and forwards between London and Manchester so as to form a continuous circuit of a length equal to that of a telegraph cable between Ireland and Newfoundland, or more than 2,000 miles. My method was to use a succession of opposite currents, which I had previously found to be successful with the magneto-electric currents used by that company. I could only try my experiments at night, or on Sundays, when the traffic on the line was small. I showed Professor Morse one night that signals could be sent at the rate of 210, 241, and in one experiment at the rate of 270 signals per minute through that continuous circuit of 2,000 miles of the company's underground wires between London and Manchester. The wires were joined backwards and forwards at Manchester and London, in each loop at both ends a galvanometer being inserted in the circuit to prove that the currents really passed through. By this the resistance, though not the retardation, of the line was largely increased."

The details of laying the Atlantic cable are matters of

history. Suffice it is to say that in carrying out this great work Sir Charles Bright showed himself a man of extraordinary energy and power, rapid in thinking and acting, and endowed with courage and perseverance under difficulties—qualities which enabled him to bring this never-to-be-forgotten undertaking to a successful issue. In recognition of these great services rendered by him to the country and to science, Charles Tilston Bright in the year 1858 received the honour of knighthood at the early age of 26 years.

Sir Charles Bright's subsequent career is closely connected with many great works of telegraph engineering in different parts of the world, which he carried out with the same thoroughness that uniformly distinguished him. It is almost superfluous to mention the numerous instruments and appliances he invented for the improvement of telegraphy, which are well known.

The works he accomplished bear evidence of his skilful handiwork, his intuitive knowledge, and unerring judgment, and as the great fabric of the modern telegraph system rises and spreads throughout the world, its foundations and superstructure bear evidence of the vital part played by him in their construction and formation.

Sir Charles Bright was a Fellow of several learned societies, and was a member of the Institution of Civil Engineers. In 1865 the council of that institution awarded him the Telford Gold Medal. In the same year he was returned to Parliament as member for Greenwich. In 1881 he was appointed one of the British Commissioners at the Paris International Exhibition, and received from the French Government the cross of the Legion of Honour. In 1886 he became President of the Society of Telegraph Engineers and Electricians.

In 1853 Sir Charles Bright married the daughter of the late Mr. John Taylor, of Kingston-upon-Hull, by whom he leaves issue. He was taken suddenly ill while on a visit to his brother, and died of heart disease May 3, 1888.* He was elected a Fellow of this Society 1860, December 14.

JOHN RAND CAPRON was born in London, February 19, 1829. He was educated at the Grammar School, Guildford, and on completing his studies was articled to his uncle, Mr. John Rand, a solicitor in extensive practice in that town. After being admitted a solicitor, in 1850, Mr. Capron entered into partnership with his uncle, and subsequently succeeded to the business. He was soon appointed Borough Coroner and Clerk of the Peace, which latter appointment he held up to the time of his death.

In the midst of his many business cares and public engagements, Mr. Capron found leisure to gratify his enthusiasm for the study of natural phenomena, and it is as a scientific man of some distinction that his name will be best remembered. When

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